REMARKS

The Office Action dated January 24, 2005 has been reviewed. In response thereto, Applicant has amended claim 50 in an effort to clarify the inventive concept recited therein. In view of the amendment to claim 50, and the following remarks it is believed that the patent application is now in condition for allowance.

CLAIM REJECTIONS 35 USC §102

Claims 46-49 were rejected under 35 USC §102 (b) as being clearly anticipated by United States patent number 5,243,142. The rejection of claims 46-49 is respectfully traversed on the basis that United States patent number 5,243,142 does not teach or suggest a double-sided printed wiring board comprising an insulator substrate having a blind via, and with a cured a mass of a flowable conductive material filling said blind via.

That is, United States patent number 5,243,142 teaches a printed wiring board obtained by filling a non-electroconductive resin containing a metal powder in an inner wall metalallized through holes of double-sided copper-clad insulating substrates. However, the through holes referred to in United States patent number 5,243,142 are not believed to teach or suggest "a blind via" as referred to in claim 46. Further, the non-electroconductive resin paste containing a metal powder referred to in United States patent number 5,243,142 is not believed to teach or suggest the "cured mass of a flowable conductive material filling said blind via". See for example Col. 3, lns. 18-23 where it is described "[t]his means that the resin paste is non-electroconductive."

In further support of Applicants' position, the Applicants' attorney respectfully directs the Examiner's attention to Exhibit A, entitled "Buried/Blind Vias". As discussed

in attached Exhibit A, it is Applicants' belief that a blind via is the via having connection to the surface of a printed circuit board, but not going through all the layers. In addition, the blind via usually connects the surface to a specific internal layer and is typically formed by depth control drilling. United states patent number 5,243,142, on the other hand, consistently illustrates and describes through holes, which would correspond to the description of the normal via set forth in attached Exhibit A.

In view thereof, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 46-49 as being anticipated by United States patent number 5,243,142.

Claims 50-52 were rejected under 35 USC §102(b) as being anticipated by United States patent number 5,277,787. Claim 50 has been amended to overcome the rejection in view of US patent number 5,277,787. That is, claim 50 has been amended to specify the "via" as a "blind via". United States patent number 5,277,787 does not teach a "blind via" as recited in claim 50. That is, as recited in Col. 3 of United States patent number 5,277,787, such patent teaches "an inner via hole", rather than a "blind via." An "inner via hole" is also known as a "buried via", which is described in Exhibit A.

In light of the foregoing, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 50-52 in view of United States patent number 5,277,787.

CLAIM REJECTIONS-35 USC §103(a)

Claims 53-60 were rejected under 35 USC §103(a) as being unpatentable over Watanabe et al. (US 5,319,159) in view of Ishikawa et al. (US 5,243,142) or Hayakawa

et al. (US 4,383,363). The rejection of claims 53-60 under 35 USC §103(a) is respectfully traversed. As the Examiner is aware, to establish a prima facie case of obviousness requires the combination of references to teach each and every element recited in the claims. Claims 53-60 recite:

> a substrate having at least first and second generally parallel surfaces and a blind via extending from the first surface, the blind via having a sidewall;
>
> a first conductive layer extending over substantially all of the first surface;
>
> a conductive material positioned within the blind via, the conductive material plugging the blind via such that the blind via has no opening extending from the first surface; and

The combination of Watanabe et al. (US 5,319,159) in view of Ishikawa et al. (US 5,243,142) or Hayakawa et al. (US 4,383,363) does not teach a substrate having a blind via and with a conductive material positioned within the blind via. That is Watanabe et al. (US 5,319,159), Ishikawa et al. (US 5,243,142) and Hayakawa et al. (US 4,383,363) consistently teach through holes, rather than a blind via as recited in claims 53-60. In view thereof, it is believed that a prima facie case of obviousness has not been presented. Reconsideration and withdrawal of the rejection of claims 53-60 is respectfully requested.

DOUBLE PATENTING

Claims 50-60 were rejected under the judicially created doctrine of obviousness - type double patenting in view of claims 1, and 5-18 of U.S. Patent No. 6,303,881. Submitted herewith is a terminal disclaimer to overcome the rejection under the judicially created doctrine of obviousness-type double patenting. Reconsideration and

withdrawal of the rejection under the judicially created doctrine of obviousness-type double patenting is respectfully requested.

SUMMARY

The foregoing is intended to be a complete response to the Office Action dated January 24, 2005. Reconsideration and withdrawal of the rejections is respectfully requested. Should the Examiner have any questions or comments regarding the foregoing, Applicants' attorney would welcome a telephonic interview with the Examiner.

Respectfully submitted,

Marc Brockhaus

Marc A. Brockhaus, Reg. No. 40,923
Customer No. 30589
DUNLAP, CODDING & ROGERS, P.C.
P.O. Box 16370
Oklahoma City, Oklahoma 73113
(405) 607-8600 - telephone
(405) 607-8686 - telefax

Attorney for Applicant(s)